



A Report Prepared for:

Shell Oil Products US
2555 13th Avenue SW
Seattle, Washington 98134

STORMWATER POLLUTION PREVENTION PLAN

**SHELL OIL PRODUCTS US
SEATTLE DISTRIBUTION TERMINAL
SEATTLE, WASHINGTON**

APRIL 1, 2013

828.001.01.004

TABLE OF CONTENTS

1.0	PLAN ADMINISTRATION AND BACKGROUND.....	1
1.1	General Plan Information.....	1
1.1.1	Purpose and Content	1
1.1.2	Plan Certification	1
1.1.3	Notification	1
1.1.4	Reporting.....	1
1.2	Facility Fact Sheet.....	2
1.2.1	General Facility Information.....	2
1.2.2	Main Terminal	3
1.2.3	North Tank Farm.....	3
1.2.4	Shoreline Manifold Area and Dock	3
2.0	STORMWATER POLLUTION PREVENTION TEAM.....	5
3.0	EXISTING AND POTENTIAL POLLUTANT SOURCES	6
3.1	Inventory of Source Areas	6
3.2	Assessment of Potential Pollutant Sources	6
4.0	BEST MANAGEMENT PRACTICES	7
5.0	EVALUATION OF NON-STORMWATER DISCHARGES	7
6.0	RECORDKEEPING AND REPORTING	7
7.0	FACILITY INSPECTION	7
7.1	Purpose of Inspection.....	7
7.2	Wet Season Inspection – October 1 to April 30	8
7.3	Dry Season Inspection – May 1 to September 30.....	8
7.4	Inspection Records.....	8

TABLES

APPENDIX A SITE DRAINAGE MAP (DRAWING 1)

APPENDIX B EXAMPLE SEASONAL INSPECTION FORMS

LIST OF TABLES

Table 1	Potential Pollutant Sources
Table 2	Best Management Practices

1.0 PLAN ADMINISTRATION AND BACKGROUND

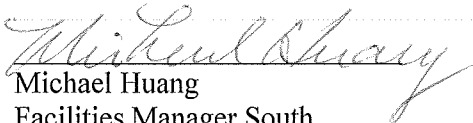
1.1 General Plan Information

1.1.1 Purpose and Content

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared for Shell Oil Products US to meet the SWPPP requirements under Shell Oil's NPDES Permit No. WA-000179-1. This SWPPP describes the operations at the Shell facility located at the Seattle Distribution Terminal, identifies potential sources of stormwater pollutants, and identifies current best management practices (BMPs) utilized to reduce the discharge of pollutants in the stormwater runoff.

1.1.2 Plan Certification

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."


Michael Huang
Facilities Manager South
Shell Oil Products US

1.1.3 Notification

Shell Oil Products US will notify the Washington State Department of Ecology (Ecology) Northwest Regional Office Spill Response Team immediately (within 24 hours) at **425/649-7000** in the event of an accidental discharge of oil, chemicals, toxic materials, or hazardous materials into waters of the state or onto land with a potential for entry into state waters, including groundwater.

1.1.4 Reporting

Shell Oil will submit a written spill report to the Ecology Water Quality Program within 5 days after knowledge of an accidental discharge of oil, chemicals, toxic materials, or hazardous materials into waters of the state or onto land with a potential for entry into state waters, including groundwater. Ecology may waive or extend this reporting requirement on a case-by-

case basis. The waiving or extension of this requirement by Ecology will be documented in a phone record or memo to the file.

1.2 Facility Fact Sheet

1.2.1 General Facility Information

The following table presents a summary of general facility information for the Terminal. A map of the facility is enclosed in Appendix A of this plan as Drawing 1.

Item	Description
Facility Name	Shell Oil Products US – Seattle Terminal
Address	2555 13 th Avenue SW Seattle, Washington 98134
Parcels	Main Terminal (2555 13 th Avenue SW) North Tank Farm (1835 13 th Avenue SW) Shoreline Manifold (1711 13 th Avenue SW)
Owner	Shell Oil Products US P.O. Box 6249 Carson, California 90749
Facility Contact Telephone No.	Phone (206) 224-0489 (24-hour operations personnel) Fax (206) 224-0479 (24-hour operations personnel)
Area	20.5 acres
Facility Type	Petroleum Bulk Distribution Terminal
Designated Responsible Person	Name: Anne Anderson Title: General Manager, Supply & Distribution

1.2.2 Main Terminal

The following table presents a summary for the Main Terminal.

Item	Description
Location	2555 13 th Avenue SW
Area	17.5 acres
Types of Operations	20 aboveground product storage tanks within containment walls, piping, underground storage tanks (USTs), a truck loading rack, a truck pumpoff pad, a railcar receipt facility, pipeline receipt facilities, a garage (no vehicle maintenance performed), a quality assurance laboratory, and office buildings. The 20 tanks in the main tank farm range from 11,400 to 4,700,000 gallons in size.
Types of Products	Light fuel oils (gasoline, diesel, biodiesel, Avjet, aviation gas) and fuel additives (including ethanol).

1.2.3 North Tank Farm

The following table presents a summary for the North Tank Farm. Stormwater runoff is not generated in this tank farm due to the unpaved ground surface.

Item	Description
Location	1835 13 th Avenue SW
Area	2.5 acres
Types of Operations	2 aboveground product storage tanks (both 1,500,000 gallons in size) within containment walls.
Types of Product	Currently out of service

1.2.4 Shoreline Manifold Area and Dock

The following table presents a summary for the shoreline manifold area and dock (dock jointly owned with ExxonMobil Corporation). Stormwater from the dock is managed by Rainier Petroleum, the tenant of ExxonMobil. Stormwater runoff is not generated in the shoreline manifold area due to the unpaved ground surface.

Item	Description
Location	1711 13 th Avenue SW
Area	0.5 acres
Types of Operation	Dock and manifolds controlling flow of product between dock and the tank farm.
Types of Product	Gasoline and diesel.

2.0 STORMWATER POLLUTION PREVENTION TEAM

The Stormwater Pollution Prevention Team is responsible for developing, implementing, maintaining, and revising this SWPPP. The members of the team are familiar with the management and operations of the facility. The members and their primary responsibilities are as follows:

Name	Title	Responsibilities
Tom Eikmeier	Facilities Manager North	<ul style="list-style-type: none"> • Participate in and evaluate biannual facility inspections • Allocate company resources required for implementation of BMPs • Participate in employee training
Michael Huang	Facilities Manager South	<ul style="list-style-type: none"> • Sign the SWPPP and non-stormwater discharge certifications
Shaun Wilkinson	Terminal Operations Supervisor	<ul style="list-style-type: none"> • Maintain SWPPP-related records • Oversee BMP implementation throughout the facility • Oversee biannual facility inspections • Conduct employee training
Various	Terminal Operators	<ul style="list-style-type: none"> • Participate in employee training • Ensure that BMPs are implemented throughout the facility • Conduct biannual facility inspections
Theresa Geijer	Environmental Representative	<ul style="list-style-type: none"> • Provide environmental support

The members of the Stormwater Pollution Prevention Team will meet, as necessary, to address new potential sources of stormwater pollutants or to resolve any problems related to BMP implementation.

3.0 EXISTING AND POTENTIAL POLLUTANT SOURCES

3.1 Inventory of Source Areas

The Shell Oil Products US facility contains ten separate areas of activity that involve the transfer or storage of petroleum products. These areas are identified on Drawing 1 in Appendix A. Drawing 1 includes the stormwater conveyance and discharge structures, an outline of the stormwater drainage areas for each stormwater discharge point, paved areas, and buildings and surface water locations. The storm drain system consists of a series of catch basins connected by pipes and is divided into five drainage basins, A through E. Most of the catch basins (Drainage Basins A, B, C, and D) drain to the main oil/water separator in the southeast corner of the property. One line of catch basins draining the area immediately southeast of the employee building (Drainage Basin E) drains to the small oil/water separator on the west side of the property. There are no storm drains in the north tank farm or the shoreline manifold area (dock operations).

The facility maintains separate plans and documents that identify materials stored on site, current inventories, and spill histories. Sources of this information include the SPCC plan, FRP, Hazcom, and inventory records.

Each area has been examined for potential sources, i.e., activities or practices that may result in the discharge of contaminants into stormwater. A review of the materials stored at the various locations revealed that there are no incompatible materials handled at the Shell Oil facility. The following 10 areas include existing or potential pollutant sources:

- Tank farms;
- Piping systems;
- Truck loading rack;
- Truck pumpoff pad;
- Railcar unloading area;
- Oil/water separators;
- Storm drain system;
- Garage;
- Waste storage area; and
- Dock operations

3.2 Assessment of Potential Pollutant Sources

A description of each area with an assessment of existing and potential pollutant sources is provided in Table 1. Note that the pollutant sources from the former Lubricants Operations have been eliminated. Lubricants operations ceased in December 2003, and the lubricants infrastructure (including all lubricant tanks in the southern part of the terminal, the lubricants manifold, the southern truck loading rack, the associated piping systems, the boiler, and the two warehouses) were removed in 2012. The boiler UST was also decommissioned in 2012.

4.0 BEST MANAGEMENT PRACTICES

Shell Oil Products US has implemented and has identified operational, source-control, and treatment BMPs for the existing and potential pollutant sources identified in Section 3 of this Plan. BMPs in place for each activity area are listed in Table 2.

In addition to area-specific BMPs, Shell Oil Products US is committed to employee training. Shell personnel are trained in hazardous materials handling, SPCC requirements, and spill response. Personnel are also required to read and understand the SWPPP and assist in identifying new BMPs or methods to improve existing BMPs. Details related to employee training are provided by and tracked in the “Shell Open University” system.

5.0 EVALUATION OF NON-STORMWATER DISCHARGES

Some non-storm discharges are covered under the facility’s NPDES permit. Testing for the presence of non-stormwater discharges not covered by the permit was conducted at the facility. Testing included visual observation of flows and odors, dye testing, and validation of accurate piping schematics. The results of this evaluation have been documented on the drainage map for the facility (see Drawing 1 in Appendix A).

6.0 RECORDKEEPING AND REPORTING

This SWPPP, all inspection and site compliance evaluation records, preventive maintenance records, and reports of spills or other incidents will be retained by Shell Oil Products US for at least five years after the date of the report, data, or submission. The records include:

- The completed Shell Daily Terminal Inspection Forms;
- The completed seasonal inspection forms (located in Appendix B);
- The inspection log for the oil/water separator;
- Completed spill reports; and
- Operation and maintenance logs.

The period of retention for these records will be extended upon request by Ecology. These records will be made available, upon request, to a representative of Ecology.

7.0 FACILITY INSPECTION

7.1 Purpose of Inspection

The designated member(s) of the Stormwater Pollution Prevention Team will conduct biannual inspections of the facility. One of the inspections will be performed during the dry season (May 1 to September 30) and the other during the wet season (October 1 to April 30). The biannual inspections are intended to determine whether potential pollution sources are being sufficiently controlled and whether all BMPs specified in the Plan have been properly implemented. Each inspection will be documented, and the recorded results will be retained at the facility.

7.2 Wet Season Inspection – October 1 to April 30

The wet season inspection will be conducted during a rainfall event to verify that the description of potential pollution sources is accurate, that the site map is accurate and updated to reflect current conditions, and that the BMPs and other controls to reduce pollutants in stormwater discharges associated with site operations are being adequately implemented. The wet season inspection will include observations of the presence of floatables, suspended solids, oil and grease, discolorations, or odor in the stormwater discharges.

7.3 Dry Season Inspection – May 1 to September 30

The dry season inspection will determine the presence of unpermitted non-stormwater discharges such as domestic wastewater, unpermitted non-contact cooling water, or unpermitted process water to the stormwater drainage system. If an unpermitted, non-stormwater discharge is discovered, Shell will immediately try to locate and mitigate the source of the unpermitted discharge, and shall immediately notify Ecology.

7.4 Inspection Records

Shell Oil Products US will complete inspection report forms summarizing the scope of the evaluation, the person(s) conducting it, the date, major observations, and findings, and actions taken will be prepared and retained as part of this SWPPP. A sample is included in Appendix B.

The report will identify any incidents of noncompliance. When incidents of noncompliance are encountered, they will be traced to the source. If the noncompliance is from an on-site source, Shell will implement changes to prevent future reoccurrence. The Shell Facilities Manager and Terminal Manager or their authorized designees will sign the report.

TABLES

Table 1

**Potential Pollutant Sources
Stormwater Pollution Prevention Plan
Shell Distribution Terminal
Seattle, Washington**

Area	Potential Pollutant Source	Potential Pollutant
Tank Farms	Potential releases within tank farms to stormwater or groundwater	Light fuel oils (e.g., gasoline, diesel, and biodiesel), ethanol, and additives. Potential constituents include benzene, ethylbenzene, toluene, xylenes, ethanol, phenols, and lead.
	Product, sludge, and scale in tank bottoms	
	Tank water draws	
	Water and sediment in catch basins	
Piping Systems	Pipeline system failure (e.g., valve malfunction, pinhole leak) resulting in contact with stormwater, groundwater, or surface water	Light fuel oils (e.g., gasoline, diesel, and biodiesel), ethanol, and additives. Potential constituents include benzene, ethylbenzene, toluene, xylenes, ethanol, phenols, and lead.
	Dock pipeline hydrotest water	
Truck Loading Rack	Residual product spills during fuel loading of trucks	Light fuel oils and additives. Potential constituents include benzene, ethylbenzene, toluene, xylenes, ethanol, phenols, and metals.
	Release of fire suppression foam	Fire suppression foam.
	Contact rainwater	Oil & grease, fuels, ethanol, metals, and suspended solids in rainwater from trucks.
Truck Pumpoff Pad	Residual spills during unloading of product	Light fuel oils, biofuels, ethanol, and additives. Potential constituents include benzene, ethylbenzene, toluene, xylenes, ethanol, phenols, and metals.
	Release of fire suppression foam	Fire suppression foam.
	Contact rainwater	Oil & grease, fuels, ethanol, metals, and suspended solids in rainwater from trucks.
Railcar Unloading Area	Residual spills during unloading of product	Light fuel oils and ethanol. Potential constituents include benzene, ethylbenzene, toluene, xylenes, ethanol, phenols, and lead.
	Product drips and contact rainwater	Light fuel oils, benzene, ethylbenzene, toluene, xylenes, ethanol, metals, and suspended solids in rainwater from tank cars.

Table 1

**Potential Pollutant Sources
Stormwater Pollution Prevention Plan
Shell Distribution Terminal
Seattle, Washington**

Area	Potential Pollutant Source	Potential Pollutant
Oil/Water Separators	Residual product and solids in water from areas of the facility	Light fuel oils and additives. Potential constituents include benzene, ethylbenzene, toluene, xylenes, ethanol, phenols, and metals.
Storm Drain System	Catch basins	Light fuel oils (e.g., gasoline and diesel). Potential constituents include benzene, ethylbenzene, toluene, xylenes, phenols, and metals.
		Oil & grease, metals, and suspended solids in rainwater.
Drum Storage Area	Temporary drum storage of hazardous and non-hazardous products and waste	Additives, ethylene glycol, and maintenance activities (tank cleaning) waste. Potential constituents include benzene, toluene, xylenes, ethylbenzene, and metals.
Dock Operations	Releases into stormwater or surface water during unloading of product	Light fuel oils (e.g., gasoline and diesel). Potential constituents include benzene, ethylbenzene, toluene, xylenes, and phenols.

Table 2

**Best Management Practices
Stormwater Pollution Prevention Plan
Shell Distribution Terminal
Seattle, Washington**

Area	Potential Pollutant Source	Best Management Practice
Tank Farms	Potential product releases within tank farms to stormwater or groundwater	Stormwater runoff from the walled containment area is directed to the Terminal's main oil/water separator for treatment prior to discharge.
		Shell implements extensive tank inspection procedures including visual inspection of tanks, pipelines, flanges, and pumps; cathodic protection system inspections; and integrity tank inspections. These inspection procedures are just one element of Shell Oil's program to protect stormwater, groundwater, and surface water. The detailed procedures are presented in the facility's SPCC Plan.
		Shell has installed high liquid level alarms on its light oil (fuel) tanks. These alarms provide early warning in the event of a potential overfill and have minimized the potential for tank overfill.
		Shell has installed shutoff valves in tank farms to prevent migration to the oil/water separator in the event of a major product release.
		Shell conducts daily tank farm inspections to identify potential leaks and spills as part of its operations. The Shell Daily Terminal Inspection Form will be used to log inspection findings.
	Tank water draws	Floating roof tanks have been equipped with geodesic domes to minimize the volume of water. Tank bottom water is periodically drained to a 10,000 gallon underground storage tank (UST 3300, also called tank UG-3A), where it is collected; it is then either routed through the the underground oil/water separator tank (UG-4), carbon treatment system, main oil/water separator, and zinc treatment system prior to discharge at Outfall 001, or transported off site for recovery or disposal.
	Product, sludge, and scale in tank bottoms	Product, sludge, scale, and water generated during cleaning of tanks is disposed of off site at an approved disposal facility.
	Sediment in catch basins	Catch basins are inspected and sediment removed, as required, to limit excessive accumulation. Sediment is disposed of off site at an approved disposal facility.

Table 2

**Best Management Practices
Stormwater Pollution Prevention Plan
Shell Distribution Terminal
Seattle, Washington**

Area	Potential Pollutant Source	Best Management Practice
Piping Systems	Pipeline system failure (e.g., valve malfunction, pinhole leak) resulting in contact with stormwater, groundwater, or surface water	Shell conducts a visual inspection of the transfer line starting from the manifold area to the individual tank once during each pipeline receipt.
		Shell visually inspects all aboveground pipelines.
	Dock pipeline hydrotest water	Shell conducts biannual visual inspections of surface conditions along and adjacent to buried piping. Additional inspections are also conducted when deemed necessary, such as pressure testing, acoustic testing, etc.
Truck Loading Rack	Residual product spills during fuel loading of trucks	When dock pipeline hydrotesting is complete, the hydrotest water is drained to UG-4, where it is collected and routed through the carbon treatment system, main oil/water separator, and zinc treatment system prior to discharge at Outfall 001. Any oil generated during pipeline hydrotesting is routed to UST 3300.
	Release of fire suppression foam	The light oil load rack is equipped with a concrete pad, concrete curbs, and a series of strip drains that drain to a 10,000 gallon underground oil/water separator (UG-4) and then to four 2,000-pound carbon vessels for treatment prior to discharge to the main oil/water separator. All potential spilled products would be captured by this treatment system.
	Contact stormwater from rainfall	Fire suppression foam is not released during foam tests. During tests, a small amount of foam is diverted to a sample container.
Truck Pumpoff Pad	Residual spills during unloading of product	Both racks are constructed with a roof canopy reducing the volume of contact stormwater.
		This area is constructed of concrete curbs and a concrete pad, which is sloped to a strip drain. The strip drain is piped underground to the truck rack carbon treatment system, with an automated valve and pipe overflow to a 5,000-gallon underground emergency spill containment sump that isolates the pumpoff pad from the stormwater conveyance systems during truck pumpoff. Any spill is collected in the underground sump and then pumped into a truck and transported off site for recovery.

Table 2

**Best Management Practices
Stormwater Pollution Prevention Plan
Shell Distribution Terminal
Seattle, Washington**

Area	Potential Pollutant Source	Best Management Practice
Truck Pumpoff Pad (continued)	Residual spills during unloading of product (continued)	The strip drain is inspected daily and labeled to discourage waste dumping. Since this is an emergency containment sump, the sump should be empty unless a spill has just occurred.
	Release of fire suppression foam	Fire suppression foam is not released during foam tests. During tests, a small amount of foam is diverted to a sample container.
	Contact stormwater from rainfall	The truck pumpoff pad is constructed with a roof canopy reducing the volume of contact stormwater. Water dripping off of trucks collects in the strip drain, gravity flows through underground piping to underground oil/water separator tank UG-4 (where any product is retained), and then is pumped to the carbon treatment system where it is treated by the carbon system and main oil/water separator prior to discharge.
Railcar Unloading Area	Residual spills during unloading of product	The railcar area is equipped with containment, drip pans, and a 4,200-gallon concrete sump (UG-12). A spill during unloading would drain into the drip pans and sump, and the presence of product in the sump would automatically activate a pump that would transfer the product into either Tank 1409 or Tank 80001.
		The railcar unloading area is manned during all unloading activities and Shell conducts a visual inspection of each railcar and transfer line during each pipeline receipt.
	Product drips and contact stormwater from rainfall	Contact stormwater with minor product drips is collected in drip pans and a concrete sump (UG-12). It is then manually pumped to either Tank 1409 or Tank 80001.
	Product samples	Aviation gasoline product samples from the railcars are carried in buckets and added to the product in Tank 3300, which is periodically removed for off-site recovery. Ethanol product samples are manually pumped to either Tank 1409 or Tank 80001.

Table 2

**Best Management Practices
Stormwater Pollution Prevention Plan
Shell Distribution Terminal
Seattle, Washington**

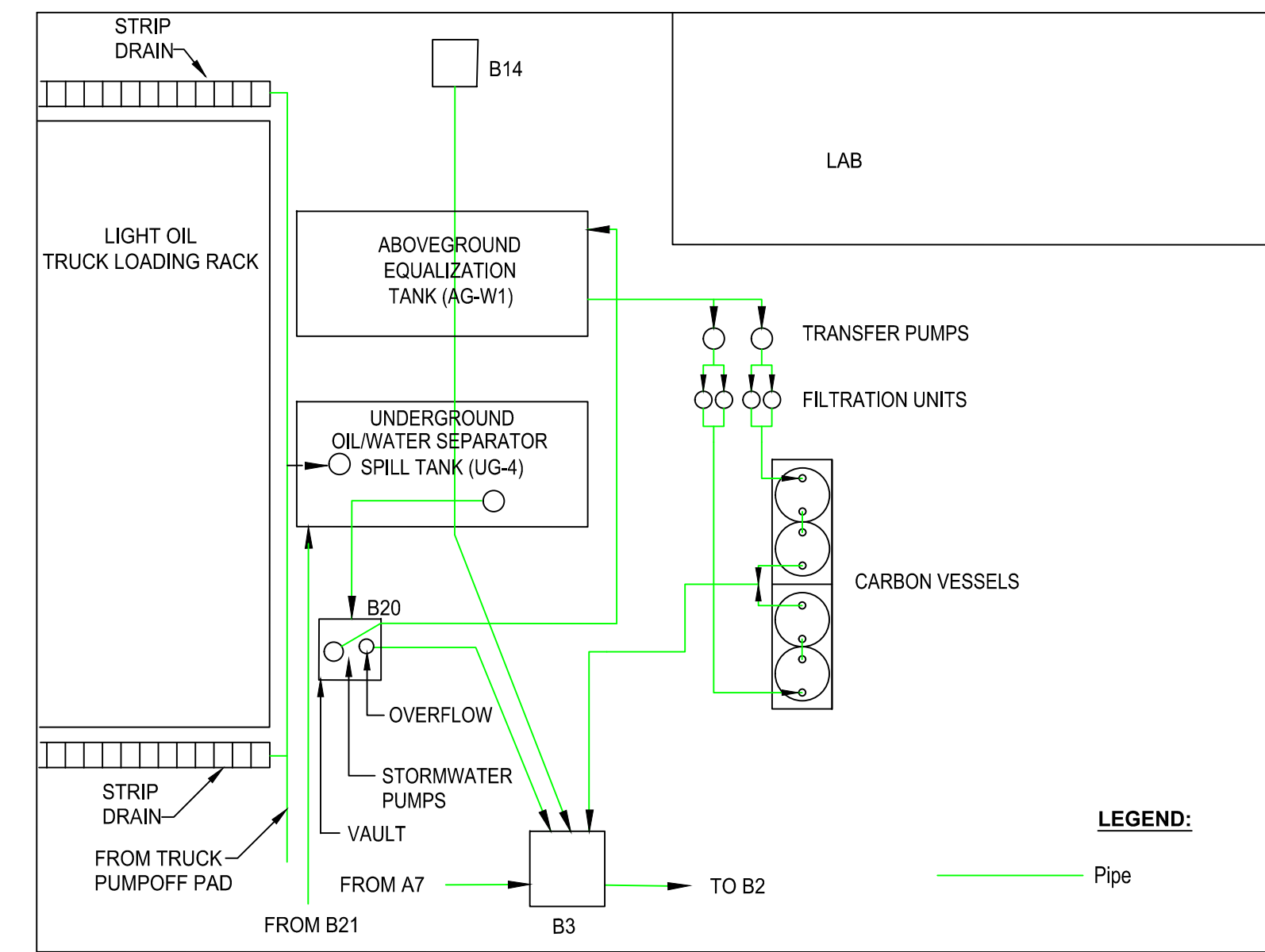
Area	Potential Pollutant Source	Best Management Practice
Main Oil/Water Separator	Residual product (oil) and solids (sludge)	Oil separated in the first compartment of the oil/water separator is periodically skimmed off and transported off site for recovery.
		Sludge is collected on an as-needed basis and disposed of at an approved facility.
		All water is pumped through a Storm Water 360 2-stage filtration system prior to discharge.
		Shell has implemented operation, maintenance, and monitoring procedures for the main oil/water separator. These procedures include daily inspections, monitoring, and monthly collection of water samples for chemical analysis in accordance with the facility's NPDES permit.
	Contact stormwater from rainfall	All water is pumped through a Storm Water 360 2-stage filtration system for reduction of zinc prior to discharge.
Other Oil/Water Separators	Residual oil	Shell conducts daily visual inspections and monthly monitoring in accordance with its NPDES permit.
Storm Drain System	Catch basins	Catch basins are inspected and sediment removed, as required, to limit excessive accumulation. The sediment is disposed of off site at an approved disposal facility.
		Area sweeping will be conducted, as needed, to minimize heavy dust and debris and to reduce potential migration of metals into stormwater.
		Catch basin in contractor's yard are covered during additive deliveries by truck.
Drum Storage Area	Drum storage of finished materials	Drums, or similar containers, will be stored inside or, if outside, in a bermed, covered area.
		Empty drums shall be stored with all openings plugged, in an upright position, and at least 20 feet from a storm drain.

Table 2

**Best Management Practices
Stormwater Pollution Prevention Plan
Shell Distribution Terminal
Seattle, Washington**

Area	Potential Pollutant Source	Best Management Practice
Drum Storage Area (continued)	Temporary drum storage of hazardous and non-hazardous waste	Drums are stored within a diked concrete containment area.
		Roof over area minimizes stormwater contact.
Dock Operations	Releases into stormwater or surface water during unloading of product	Drip trays and a sump have been installed at the dock. Oil spilled when making and breaking connections are collected in drip trays or a sump. Accumulated oily waste is transferred to a tank at Rainier Petroleum where it is held until transported off site for disposal.
		All shore valves are closed and locked when not in use.
		An authorized PIC (Person-in-Charge) is stationed on the dock during loading and unloading operations to close the shutoff valves in case of an accidental release. The PIC is equipped with a two-way radio to provide constant communication with the control office.
		Shell has permanently installed 700 ft of petrobarrier below the dock.
		Shell has 1,750 feet of boom on a reel ready to deploy around a vessel in the event of a spill.
		Shell conducts operations in accordance with the USCG Dock Operations Manual.

APPENDIX A
SITE DRAINAGE MAP (DRAWING 1)



N.T.S.

N.T.S.

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JOB NUMBER	DRAWING NUMBER	REVIEWED BY DATE

APPENDIX B

EXAMPLE SEASONAL INSPECTION FORMS

Shell Oil Products US
Seasonal Inspection Checklist
Wet Season Inspection (October 1 - April 30)

Must be completed by a member of the pollution prevention team.

Name: _____ Date of inspection: _____

Is the description of the potential pollutant sources described in this plan accurate? yes/no?

If no, describe changes _____

Is the site map accurate? yes/no? (if no, describe) _____

Are the BMPs discussed in this permit being implemented and adequate? yes/no?

(if no, describe) _____

Reviewed/Approved
Facilities Manager
Shell Oil Products US

Reviewed/Approved
Terminal Manager
Shell Oil Products US

